

**APPLICATION**

**FOR**

**UNITED STATES LETTERS PATENT**

TO ALL WHOM IT MAY CONCERN;

BE IT KNOWN THAT WE, **CHERISSE MORGAN** and **GARY MORGAN**,  
citizens of the United States and of the United Kingdom, respectively, have  
invented new and useful improvements in an

**ERGONOMIC CUSHION AND RECLINER CHAIR APPARATUS**

of which the following is a specification:

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# **ERGONOMIC CUSHION AND RECLINER CHAIR APPARATUS**

## **BACKGROUND OF THE INVENTION**

### **Cross-Reference to Related Application**

This application claims priority based upon my copending Provisional Application Serial No. 60/222,699, filed August 2, 2000.

### **Field of the Invention**

The present invention relates generally to lounge chairs and, more particularly, to lounge chairs especially adapted for permitting a person to read a publication when in a prone position on a lounge chair.

### **Description of the Prior Art**

Lounge chairs are well known in the art. A specific class of lounge chairs are provided with upper chair portions which have an opening that permits a person, who is in a prone position on the lounge chair, to read a publication through the opening in the upper chair portion. More specifically, throughout the years, a number of innovations have been developed relating to lounge chairs which include an opening in a chair portion for permitting a person in a prone position to read a publication, and the following U. S. patents are representative of some of those innovations: 4,606,086, 5,222,779, 5,946,749, 6,042,184, and 6,059,365.

The lounge chairs disclosed in the above-listed patents have two common characteristics which are a tubular frame and a person-bearing webbing material attached to the frame. With the exception of U. S. Patent No. 6,042,184, the above-listed patents share still another common characteristic which is that the chair-portion reading opening is located in the person-bearing webbing material attached to the tubular frame. In U. S. Patent No. 6,042,184, the reading opening is located in an add-on structure which is supported by the tubular frame and the webbing material but which extends a considerable distance beyond the periphery of the tubular frame.

10 Many conventional lounge chairs are in use which do not have a chair-portion reading opening. Retrofitting such a chair to one which has a chair-portion reading opening would be a difficult task because making a chair-portion reading opening in webbing material would be difficult to do. Conventionally, webbing strips are stretched across the tubular frame. If portions of webbing strips are cut to make an opening through the cut webbing strips, it would be difficult to properly support cut ends of such cut webbing strips. Nevertheless, it would be desirable if a device could be provided that would permit a conventional lounge chair to be retrofitted to a lounge chair which has a chair-portion reading opening without the need for cutting webbing

20 strips and supporting the cut webbing strips.

As mentioned above, U. S. Patent No. 6,042,184 discloses a lounge chair which has a reading opening comprised of an add-on structure which is supported by the tubular frame and the webbing material and which extends a considerable distance beyond the periphery of the tubular frame. Rather than have an add-on structure that extends beyond the periphery of the tubular frame, it would be desirable if a device could be provided that provides a reading opening in a lounge chair without using an add-on structure that extends a considerable distance beyond the periphery of the tubular frame.

Still other features would be desirable in a ergonomic cushion and recliner chair apparatus. For example, when a person lies on one's back, it would be desirable if a lumbar cushion could be provided to add support and comfort to a person's back.

In addition, when a person lies prone on a lounge chair to read a publication, if the upper portion of the lounge chair has no special access for one's arms, it may be difficult for the person to comfortably turn pages of a book that one is reading. In this respect, it would be desirable if a device provides a reading opening and also provides special access for the reader's arms when the reader is in a prone position.

Thus, while the foregoing body of prior art indicates it to be well known to use lounge chairs providing for a user to read a publication when in the



## SUMMARY OF THE INVENTION

To achieve the foregoing and other advantages, the present invention, briefly described, provides an ergonomic cushion apparatus which includes an upper body cushion portion which includes a neck-cushion-reception channel and first upper cushion attachment straps. A flexible hinge is connected to the upper body cushion portion. A lower body cushion portion is connected to the flexible hinge. The lower body cushion portion includes first lower cushion attachment straps and includes attachment means for a lumbar cushion. Also, second upper cushion attachment straps are connected to the upper body cushion portion, and second lower cushion attachment straps are connected to the lower body cushion portion.

A neck cushion received in the neck-cushion-reception channel. The neck cushion includes a bottom cushion portion received in the neck-cushion-reception channel, and a top cushion portion which is connected to the bottom cushion portion and which extends outward laterally beyond the first input channel. In overall appearance, the neck cushion is mushroom shaped.

A lumbar cushion is connected to the lumbar cushion attachment means. The lumbar cushion is cylindrical in shape. The lumbar cushion attachment means include a lower-body-cushion-attached hook-or-loop connector, and the

lumbar cushion includes a lumbar-cushion-attached loop-or-hook connector which connects with the lower-body-cushion-attached hook-or-loop connector.

A recliner chair frame assembly is provided for supporting the upper body cushion portion, the flexible hinge, and the lower body cushion portion. The recliner chair frame assembly includes a lower frame member. Lower frame straps are connected across longitudinal portions of the lower frame member. Legs are connected to the lower frame member. Frame orientation assemblies are connected to the lower frame member. An upper frame member is connected to the frame orientation assemblies. Upper frame straps are connected to the upper frame member.

An auxiliary frame member is connected to the upper frame member and extends below the upper frame member. The auxiliary frame member supports an auxiliary platform. A beverage holder is connected to the auxiliary frame member.

The upper body cushion portion includes a pair of inwardly directed arm-reception regions located along opposite edges of the upper body cushion portion. Preferably, the inwardly directed arm-reception regions are concave in shape. Preferably, the inwardly directed arm-reception regions are located in alignment with opposite sides of the neck-cushion-reception channel.

The above brief description sets forth rather broadly the more important features of the present invention in order that the detailed description thereof that follows may be better understood, and in order that the present contributions to the art may be better appreciated. There are, of course, additional features of the invention that will be described hereinafter and which will be for the subject matter of the claims appended hereto.

In this respect, before explaining at least two preferred embodiments of the invention in detail, it is understood that the invention is not limited in its application to the details of the construction and to the arrangements of the components set forth in the following description or illustrated in the drawings. The invention is capable of other embodiments and of being practiced and carried out in various ways. Also, it is to be understood, that the phraseology and terminology employed herein are for the purpose of description and should not be regarded as limiting.

As such, those skilled in the art will appreciate that the conception, upon which disclosure is based, may readily be utilized as a basis for designing other structures, methods, and systems for carrying out the several purposes of the present invention. It is important, therefore, that the claims be regarded as including such equivalent constructions insofar as they do not depart from the spirit and scope of the present invention.



It is therefore an object of the present invention to provide a new and improved ergonomic cushion and recliner chair apparatus which has all of the advantages of the prior art and none of the disadvantages.

It is another object of the present invention to provide a new and improved ergonomic cushion and recliner chair apparatus which may be easily and efficiently manufactured and marketed.

It is a further object of the present invention to provide a new and improved ergonomic cushion and recliner chair apparatus which is of durable and reliable construction.

10 An even further object of the present invention is to provide a new and improved ergonomic cushion and recliner chair apparatus which is susceptible of a low cost of manufacture with regard to both materials and labor, and which accordingly is then susceptible of low prices of sale to the consuming public, thereby making such ergonomic cushion and recliner chair apparatus available to the buying public.

Still yet a further object of the present invention is to provide a new and improved ergonomic cushion and recliner chair apparatus which permits a conventional lounge chair to be retrofitted to a lounge chair which has a chair-

portion reading opening without the need for cutting webbing strips and supporting the cut webbing strips.

Still another object of the present invention is to provide a new and improved ergonomic cushion and recliner chair apparatus that provides a reading opening in a lounge chair without using an add-on structure that extends a considerable distance beyond the periphery of the tubular frame.

Yet another object of the present invention is to provide a new and improved ergonomic cushion and recliner chair apparatus which provides a lumbar cushion which can add support and comfort to a person's back.

Even another object of the present invention is to provide a new and improved ergonomic cushion and recliner chair apparatus that provides special access for the reader's arms when the reader is in a prone position.

These together with still other objects of the invention, along with the various features of novelty which characterize the invention, are pointed out with particularity in the claims annexed to and forming a part of this disclosure. For a better understanding of the invention, its operating advantages and the specific objects attained by its uses, reference should be had to the accompanying drawings and descriptive matter in which there are illustrated preferred embodiments of the invention.

## BRIEF DESCRIPTION OF THE DRAWINGS

The invention will be better understood and the above objects as well as objects other than those set forth above will become more apparent after a study of the following detailed description thereof. Such description makes reference to the annexed drawing wherein:

Figure 1 is a top view showing a first embodiment of the ergonomic cushion of the invention removed from a recliner chair frame.

Figure 2 is a side view of the embodiment of the ergonomic cushion chair apparatus shown in Figure 1.

Figure 3 is a partial cross-sectional view of the embodiment of the ergonomic cushion apparatus of Figure 1 taken along line 3-3 thereof.

Figure 4 is a front view of the embodiment of the invention shown in Figure 2 taken along line 4-4 thereof.

Figure 5 is a perspective view of the embodiment of the invention shown in Figure 1 with an added mushroom neck cushion 98 and a cylindrical lumbar cushion 97.

Figure 6 is a bottom perspective view of the mushroom neck cushion removed from the ergonomic cushion apparatus shown in Figure 5.

Figure 7 is a bottom perspective view of the cylindrical lumbar cushion removed from the ergonomic cushion apparatus shown in Figure 5.

Figure 8 is a side view of the ergonomic cushion apparatus of Figure 1 supported on a recliner chair frame of the invention.

Figure 9 is a perspective view of the recliner chair frame of the invention shown in Figure 8 with the ergonomic cushion apparatus removed.

Figure 10 is a perspective view of a second embodiment of the invention which includes arm-reception cut outs.

Figure 11 is a top view of the embodiment of the invention shown Figure 10.

## DESCRIPTION OF THE PREFERRED EMBODIMENT

With reference to the drawings, a new and improved ergonomic cushion and recliner chair apparatus embodying the principles and concepts of the present invention will be described.

Turning to Figures 1-9, there is shown a first embodiment of the ergonomic cushion and recliner chair apparatus of the invention which includes two major components: an ergonomic cushion apparatus 10 and a recliner chair frame assembly 40.

The ergonomic cushion apparatus 10 includes an upper body cushion portion 12 which includes a neck-cushion-reception channel 14 and first upper cushion attachment straps 16. A flexible hinge 18 is connected to the upper body cushion portion 12. A lower body cushion portion 20 is connected to the flexible hinge 18. The lower body cushion portion 20 includes first lower cushion attachment straps 22 and includes attachment means for a lumbar cushion. Also, second upper cushion attachment straps 24 are connected to the upper body cushion portion 12, and second lower cushion attachment straps 26 are connected to the lower body cushion portion 20.

A neck cushion 28 received in the neck-cushion-reception channel 14. The neck cushion 28 includes a bottom cushion portion 30 received in the neck-

cushion-reception channel 14, and a top cushion portion 32 which is connected to the bottom cushion portion 30 and which extends outward laterally beyond the first input channel 14. In overall appearance, the neck cushion 28 is mushroom shaped.

A lumbar cushion 34 is connected to the lumbar cushion attachment means. The lumbar cushion 34 is cylindrical in shape. The lumbar cushion attachment means include a lower-body-cushion-attached hook-or-loop connector 36, and the lumbar cushion 34 includes a lumbar-cushion-attached loop-or-hook connector 38 which connects with the lower-body-cushion-attached hook-or-loop connector 36.

A recliner chair frame assembly 40 is provided for supporting the upper body cushion portion 12, the flexible hinge 18, and the lower body cushion portion 20. The recliner chair frame assembly 40 includes a lower frame member 42. Lower frame straps 44 are connected across longitudinal portions of the lower frame member 42. Legs 58 are connected to the lower frame member 42. Frame orientation assemblies 46 are connected to the lower frame member 42. An upper frame member 48 is connected to the frame orientation assemblies 46. Upper frame straps 50 are connected to the upper frame member 48.

If desired, the recliner chair frame assembly 40 can be derived from a conventional lounge chair. The recliner chair frame assembly 40 can include an upper frame member 48 which includes upper frame straps 50. With a conventional recliner chair frame assembly 40, if the upper frame straps 50 are too numerous and too tightly placed together to permit a reading opening therethrough, then one or more upper frame straps 50 can be removed from the upper frame member 48 to provide space for a reading opening. In this way, the ergonomic cushion apparatus 10 can be used for retrofitting a conventional lounge chair to provide a reading opening.

10 An auxiliary frame member 52 is connected to the upper frame member 48 and extends below the upper frame member 48. The auxiliary frame member 52 supports an auxiliary platform 54. A beverage holder 56 is connected to the auxiliary frame member 52.

To use the ergonomic cushion apparatus 10, the ergonomic cushion apparatus 10 is preferably used with a recliner chair frame assembly, either a conventional recliner chair frame assembly or one in accordance with the invention, as described above. The ergonomic cushion apparatus 10 can be used by a user to obtain a suntan. The ergonomic cushion apparatus 10 is attached to the recliner chair frame assembly 40 by using the first upper cushion attachment straps 16 and the first lower cushion attachment straps 22. Each of the  
20 attachment straps has a quantity of both hook-or-loop connector and

complimentary loop-or-hook connector 23 for securing the respective straps to respective frame members of the recliner chair frame assembly 40. The first upper cushion attachment straps 16 and the first lower cushion attachment straps 22 are especially useful when the ergonomic cushion apparatus 10 has dimensions so that it fits onto the recliner chair frame assembly 40 with a close fit.

In addition, the second upper cushion attachment straps 24 and the second lower cushion attachment straps 26 can be used in respective pairs to attach the ergonomic cushion apparatus 10 to the recliner chair frame assembly 40. The pairs of the second upper cushion attachment straps 24 and the pairs of the second lower cushion attachment straps 26 are sufficiently long so that they can be extended under two respective longitudinal frame portions before they are connected together with both a hook-or-loop connector and a complimentary loop-or-hook connector 23. The second upper cushion attachment straps 24 and the second lower cushion attachment straps 26 are especially useful when the ergonomic cushion apparatus 10 is not closely fit to the recliner chair frame assembly 40.

The ergonomic cushion apparatus 10 can be used by a person who lies on one's back on the ergonomic cushion apparatus 10 and permits one's head to rest in the neck-cushion-reception channel 14. Alternatively, when the neck cushion 28 is used, the bottom cushion portion 30 of the neck cushion 28 is



placed in the neck-cushion-reception channel 14, and the top cushion portion 32 extends above the upper body cushion portion 12. When a user uses the neck cushion 28, the user lies on one's back and places one's neck on the neck cushion 28. In this way, the neck is placed in alignment with user's spine. To use the lumbar cushion 34, the lumbar-cushion-attached loop-or-hook connector 38 is connected to the lower-body-cushion-attached hook-or-loop connector 36.

When a user wants to lie on one's stomach, the neck cushion 28 and the lumbar cushion 34 can be removed from the ergonomic cushion apparatus 10. Then, the person can lie face down with one's head facing downward through the neck-cushion-reception channel 14.

Using the auxiliary platform 54, a book 53 can be placed on the auxiliary platform 54. With the user looking downward through the neck-cushion-reception channel 14, the user can read the book 53. If desired, a beverage (not shown) can be placed in the beverage holder 56 so that the beverage is readily accessible to the user. If desired, a towel can be provided that has a hole that is placed in registration with the neck-cushion-reception channel 14. Such a towel can be placed on top of the ergonomic cushion apparatus 10 of the invention.

All the hook-or-loop connectors and complimentary loop-or-hook connectors can be made from well known VELCRO(TM) material. The

ergonomic cushion apparatus 10 and the recliner chair frame assembly 40 can be considered together as a combined ergonomic sunning system.

As shown in Figures 10 and 11, with the second embodiment of the invention, the upper body cushion portion 12 includes a pair of inwardly directed arm-reception regions 60 located along opposite edges of the upper body cushion portion 12. Preferably, the inwardly directed arm-reception regions 60 are concave in shape. Preferably, the inwardly directed arm-reception regions 60 are located in alignment with opposite sides of the neck-cushion-reception channel 14.

10 The components of the ergonomic cushion and recliner chair apparatus of the invention can be made from inexpensive and durable metal and plastic materials.

As to the manner of usage and operation of the instant invention, the same is apparent from the above disclosure, and accordingly, no further discussion relative to the manner of usage and operation need be provided.

It is apparent from the above that the present invention accomplishes all of the objects set forth by providing a new and improved ergonomic cushion and recliner chair apparatus that is low in cost, relatively simple in design and operation, and which may advantageously be used to permit a conventional

lounge chair to be retrofitted to a lounge chair which has a chair-portion reading opening without the need for cutting webbing strips and supporting the cut webbing strips. With the invention, a ergonomic cushion and recliner chair apparatus provides a reading opening in a lounge chair without using an add-on structure that extends a considerable distance beyond the periphery of the tubular frame. With the invention, a ergonomic cushion and recliner chair apparatus provides a lumbar cushion which can add support and comfort to a person's back. With the invention, a ergonomic cushion and recliner chair apparatus provides special access for the reader's arms when the reader is in a prone position.

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Thus, while the present invention has been shown in the drawings and fully described above with particularity and detail in connection with what is presently deemed to be the most practical and preferred embodiment(s) of the invention, it will be apparent to those of ordinary skill in the art that many modifications thereof may be made without departing from the principles and concepts set forth herein, including, but not limited to, variations in size, materials, shape, form, function and manner of operation, assembly and use.

Hence, the proper scope of the present invention should be determined only by the broadest interpretation of the appended claims so as to encompass all such modifications as well as all relationships equivalent to those illustrated in the drawings and described in the specification.

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Finally, it will be appreciated that the purpose of the annexed **Abstract** is to enable the U. S. Patent and Trademark Office and the public generally, and especially the scientists, engineers and practitioners in the art who are not familiar with patent or legal terms or phraseology, to determine quickly from a cursory inspection the nature and essence of the technical disclosure of the application. Accordingly, the **Abstract** is neither intended to define the invention or the application, which only is measured by the claims, nor is it intended to be limiting as to the scope of the invention in any way.

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